REMARKS

Amendment of Claims

Claims 1, 23, 56, 65, 66, 71, 76 and 77 have been amended herein to recite that the recited layers over the solid core fiber are extruded layers, by recitation of "extrusion coating" in steps (b) and (c) in claim 1, recitation of the "extrusion coating" in step (b) of claim 23, by recitation of "extrusion coating" in step (b) of claim 56, by recital of "extrusion coated" in claim 65, by recitation of the "extrusion coating" in step (b) of claim 66, by recitation of "by extrusion of said one or more layers" in claim 71, by recital of the "extrusion coated" in claim 76, and by recital of "extrusion coated" in claim 77.

Such recitals are fully consistent with and supported by the original disclosure the application, and no new matter (35 USC 132) has been added.

Additionally, claim 6 has been amended to correct a minor typographical error, in that the units of the upper numerical value of the recited range should be "millimeters" rather than the originally recited "millimeter."

Rejection of Claims, and Traversal Thereof

In the May 17, 2005 Office Action, the Examiner rejected pending claims 1-68, 71 and 73-80 on reference grounds, including:

- a rejection of claims 1, 5, 21, 23, 42 and 76-78 under 35 USC 102 (b) as being anticipated by Hoffman, et al.; and
- a rejection of claims 2-4, 6-20, 22, 24-41, 43-68, 71, 73-75, 79 and 80 under 35 USC 103(a) as being unpatentable over Hoffman, et al.

These rejections of the claims are traversed, and reconsideration of the patentability of the pending claims is requested, in light of the foregoing amendments and the ensuing remarks.

Patentability of Claims 1-68, 71 and 73-80

The §102 (b) Rejection of Claims 1, 5, 21, 23, 42 and 76-78 over Hoffman et al.

As noted above, claim 1 has been amended to recite "extrusion coating at least one layer of a removable substrate material over said solid core fiber" and "extrusion coating at least one layer of a polymeric membrane-forming material over said removable substrate material layer."

Claims 5 and 21 each depend from claim 1 and therefore likewise require such extrusion coating steps.

Claim 23 has been amended to recite "extrusion coating at least one layer of polymeric membrane-forming material over said solid core fiber."

Claim 42 depends from claim 23 and therefore likewise requires such extrusion coating step.

Claim 76 has been amended herein to recite "forming a fibrous precursor structure comprising a fibrous core extrusion coated by a polymeric membrane."

Claims 77 and 78 each depend from claim 76 and therefore likewise require such polymeric membrane-extrusion coated fiber core. Additionally, claim 77 has been amended correspondingly to claim 76, and recites that the fibrous core "comprises a solid core fiber extrusion coated by a removable substrate material layer."

Considering the anticipation rejection of claims 1, 5, 21, 23, 42 and 76-78, it is to be noted that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Assocs. v. Garlock*, 721, F.2d 1540, 220 USPQ 303 at 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Hoffman et al. fails to teach or suggest extrusion coating of a removable substrate material or extrusion coating of a polymeric membrane-forming material, or corresponding extruded material coatings. This is expressly acknowledged by the examiner at page 4 of the Office Action ("[e]xtrusion, while not specifically taught in Hoffman et al...").

Since all of the pending claims 1, 5, 21, 23, 42 and 76-78 require extrusion coating or extruded material coatings, Hoffman et al. fails to teach all of the limitations of these claims. Withdrawal of the rejection therefore is merited and respectfully requested.

The §103 (a) Rejection of Claims 2-4, 6-20, 22, 24-41, 43-68, 71, 73-75, 79 and 80 over Hoffman et al.

Claims 2-4, 6-20 and 22 each depend directly or indirectly from claim 1, which as discussed recites "extrusion coating at least one layer of a removable substrate material over said solid core fiber" and "extrusion coating at least one layer of a polymeric membrane-forming material over said removable substrate material layer."

The examiner at page 4 of the Office Action has conceded that extrusion is "not specifically taught in Hoffman et al.," but then has asserted that the extrusion "is a conventional way to coat substrates and one of ordinary skill in the art would have found this an obvious modification to the process of the applied reference to facilitate the coating."

There is no basis in Hoffman et al. or otherwise in the record for the assertion that extrusion "is a conventional way to coat substrates and one of ordinary skill in the art would have found this an obvious modification to the process of the applied reference to facilitate the coating." There is nothing in the record regarding the conventionality or non-conventionality of extrusion as a coating technique, such that extrusion would rise to the level of obviousness as a processing technique for the specific removable substrate to which applicants' claimed invention is directed.

Therefore, lacking any general guidance or direction from any specifically cited source or reference of conventional wisdom that would implicate extrusion as a coating technique for a removable substrate, the only conceivable rationale for the examiner's rejection of claim 1 (and associated dependent claims dependent thereunder) is his reliance on Hoffman et al., yet (i) Hoffman et al. fails to provide any specific teaching or suggestion of extrusion as a method or technique for coating a removable substrate, as has been acknowledged by the examiner at page 4 of the Office Action (conceding in the first paragraph on such page of the Office Action that extrusion is "not specifically taught in Hoffman et al") and (ii) Hoffman et al. in fact teaches away from the use of extrusion for such purpose.

In this respect, the examiner's assertion that

> **"one of ordinary skill in the art would have found this [the extrusion coating of a removable substrate], an obvious**

modification to the process of the applied reference [Hoffman et al.] to facilitate the coating"

fails to establish *prima facie* obviousness, since Hoffman et al. is devoid of extrusion teaching, and the attributed motivation "to facilitate the coating" in fact has no sense or meaning in application to the Hoffman et al. reference, and no basis in any obviousness criteria for the application of 35 USC §103 (a).

Considering the attributed motivation "to facilitate the coating" as a basis for modifying Hoffman et al. (to substitute into the reference a technique that has been expressly acknowledged by the examiner not to be specifically taught by such reference), it first is noted that nowhere in the Hoffman et al. is there any indication that any of the numerous coating techniques specifically described by such reference is in any way unsuitable, inferior or deficient in achieving a suitable coating.

Hoffman et al. variously teaches coating involving the use of chemical vapor deposition, sputtering, magnetron sputtering, electrophoresis, plasma-enhanced deposition, electroplating, electroless deposition, spraying, dipping, coacervation, fluidized bed coating, photolithography, laser deposition, plasma spray, polymeric polymerization, physical vapor deposition, sol gel, and plasma assisted physical vapor deposition. Hoffman et al. further discloses a preference for "magnetron sputtering" (column 2, line 22) and "electrodeposition which is a much faster and less expensive deposition technique" (column 5, lines 31-32).

There is simply no basis for any conclusion or suspicion that the techniques of Hoffman et al. are unable to "facilitate" coating of a substrate, or that they are in any way defective or unsatisfactory[1].

Accordingly, there is no motivation derived from Hoffman et al., based on any vague notions of "facilitating" a coating, that would impel one of ordinary skill in the art to arbitrarily discard chemical vapor deposition, sputtering, magnetron sputtering, electrophoresis, plasma-enhanced deposition, electroplating, electroless deposition, spraying, dipping, coacervation, fluidized bed coating, photolithography, laser deposition, plasma spray, polymeric polymerization, physical vapor deposition, sol gel, and plasma assisted physical vapor deposition, and to instead substitute extrusion.

[1] Contrariwise, Hoffman et al.'s specific reference to the speed and favorable cost of electrodeposition and Hoffman et al.'s clearly expressed preference for magnetron sputtering and electrodeposition are indicative of the suitability of techniques disclosed in Hoffman et al.

There is no logical or credible basis for inferring any "non-facilitating" character of any of the techniques described by Hoffman et al., or of adopting extrusion to "facilitate" the coating that to all appearances is already satisfactorily applied by the techniques that are expressly disclosed in Hoffman et al.

Further to the foregoing, "facilitation" has no apparent cognizable basis in the patent law, Code of Federal Regulations, Manual of Patent Examining Procedure, or applicable case law precedent for determining *prima facie* obviousness, or lack thereof.

According to MPEP 2142:

> **To establish a *prima facie* case of obviousness, *three* basic criteria *must* be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).**

Considering these criteria, the first criterion of "some suggestion or motivation" has been shown to be absent. Hoffman et al. has been conceded to lack teaching of extrusion, and the alleged basis for the rejection, "to facilitate the coating," has been shown to have no suggestive or motivational source in the disclosure of Hoffman et al.

Accordingly, the *prima facie* case fails at the outset, since the first criterion is not met.

The second criterion also affords no basis of support – *a priori*, there is no basis for concluding that extrusion would be successful – there are no showings or facts of record evidencing the equivalence or superiority of extrusion in relation to magnetron sputtering, electrodeposition, or any of the other techniques specifically described by Hoffman et al., or any showings or facts of record tending to show or suggest the unequivocal utility of extrusion in applications in which magnetron sputtering, electrodeposition, or any of the other techniques specifically described by Hoffman et al. are suitable.

Accordingly, there is no reasonable expectation of success for the use of extrusion for applying the materials described in Hoffman et al. to the removable substrate materials described in Hoffman et al. In

this respect, it is to be noted that extrusion is a fundamentally different and non-analogous unit operation in relation to the techniques disclosed in Hoffman et al.

The *prima facie* case again fails, since the second criterion also is not met.

The third criterion for *prima facie* obviousness likewise is not satisfied. It is clear from the foregoing that the Hoffman et al. does not teach or suggest all of the claim limitations of applicants' claim 1, since it lacks any derivative basis for the use of extrusion for coating a removable substrate. Indeed, it is clear that Hoffman et al. teaches away from the use of extrusion.

A basic consideration, which applies to all obviousness rejections, is set forth in MPEP 2141.01 (B): "[t]he references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination."

The combination urged by the Office Action is the combination of (1) extrusion, for which no derivative basis other than the applicant's own disclosure is apparent, and (2) Hoffman et al., as construed to ignore all of the specific techniques disclosed in such reference, which are arbitrarily discarded in making the combination, and arbitrarily replaced by an extrusion technique.

The examiner's attention in this respect is directed to the applicable law stated in *In re Geisler*, 116 F.D. 1465, 1469, 43 USPQ2d 1362, 1565 (Fed. Cir. 1997) and *In re Malagry*, 499 F.2d 1297, 1303, 182 USPQ 549, 533 (CCPA 1974), noting that a *prima facie* case of obviousness has been rebutted if the art "in any material respect taught away" from the claimed invention.

The meaning of "teaching away" is clear and well-established. A reference "may be said to teach away when a person of ordinary skill, upon reading the reference...would be led in a direction divergent from the path that was taken by the application." *Tec Aire, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 USPQ 2d 1294, 1298 (Fed. Cir. 1999).

One reading Hoffman et al. would know and appreciate Hoffman et al.'s teachings to coat a substrate by chemical vapor deposition, sputtering, magnetron sputtering, electrophoresis, plasma-enhanced deposition, electroplating, electroless deposition, spraying, dipping, coacervation, fluidized bed coating, photolithography, laser deposition, plasma spray, polymeric polymerization, physical vapor deposition, sol gel, or plasma assisted physical vapor deposition, with "magnetron sputtering" (column 2, line 22)

and "electrodeposition" (column 5, lines 31-32) being preferred, particularly electrodeposition, as being "a much faster and less expensive deposition technique."

One reading Hoffman et al. therefore would be led in the direction of the utilizing the proven techniques of such reference, and avoiding fundamentally different and non-analogous techniques.

It has already been noted above that extrusion is a fundamentally different and non-analogous unit operation in relation to the techniques disclosed in Hoffman et al. – in such respect, extrusion requires different equipment, different operating conditions, different operator skills, different equipment maintenance, different quality assurance procedures, a different footprint in the manufacturing facility, etc.

Thus, the rejection of claim 1 and claims dependent thereunder is based solely on an attempt to reinterpret the prior art in light of applicant's disclosure, in order to reconstruct applicant's claimed invention, but without any instructional or motivating basis in the reference itself. Such approach is improper and legally insufficient to establish any *prima facie* case of obviousness. As such, applicants' respectfully request the withdrawal of the §103(a) rejection of claims 2-4, 6-20 and 22 each depending directly or indirectly from claim 1.

For the same reasons, it is requested that the §103(a) rejections of claims 24-41 and 43, each depending directly or indirectly from claim 23 (reciting "extrusion coating"), claim 56 (reciting "extrusion coating") and claims of 57-65 dependent thereunder, claim 66 (reciting "extrusion coating") and claims 67-68 dependent thereunder, claim 71 (reciting "extrusion of said one or more layers"), claim 73 (reciting "co-extruding the molten removable substrate material and the viscous solution") and claim 74 dependent thereunder, claim 75 (reciting "co-extruding the molten removable substrate material and the viscous solution") and claim 80 (reciting "co-extrusion process"), now be withdrawn.

Concerning the rejection of claims 44-55, it is noted that the claim 44 recites, *inter alia*, "coating at least one layer of swellable polymeric membrane-forming material over said solid core fiber," "treating said swellable polymeric membrane-forming material layer to form a solidified polymeric membrane," "contacting said solidified polymeric membrane with a swelling agent to effectuate expansion and disengagement of such polymeric membrane from the solid core fiber" and "removing the solid core fiber from the disengaged solidified polymeric membrane, to form a polymeric hollow fiber comprising a tubular membrane wall enclosing an elongated lumen therein."

No such methodology is taught or suggested in Hoffman et al.

Hoffman et al. contrarily teaches to use a hollow polymeric fiber that under his solvation conditions expands inwardly to decrease the hoop stress (see column 11, lines 2-7 of Hoffman et al.: "the hollow core allows room for expansion of the fiber during solvation...[s]ince polymers swell during solvation, the hollow core allows expansion inward, which decreases hoop stress on the wall material and allows for fabrication of thin-walled tubes using polymer fibers.").

If therefore is apparent that Hoffman et al. teaches processing of a polymer to swell inwardly for relief of stress, whereas applicants require use of "a swelling agent to effectuate expansion and disengagement of such polymeric membrane from the solid core fiber," opposite to the approach of Hoffman et al. The approach of Hoffman, if applied to a solid core fiber as required by applicants' claimed invention, would result in the compressive bearing of the polymeric membrane on the solid core fiber, not "expansion and disengagement" of the polymeric membrane from the solid core fiber, as recited in applicants' independent claim 44.

For such reason, claim 44, and claims 45-55 dependent directly or indirectly thereunder, are fully patentably distinguished over the art, and in condition for allowance.

The same patentable distinction is applicable to claim 79, which recites, *inter alia*, "a swellable polymeric membrane material that expands and disengages said polymeric membrane from the solid core fiber upon contact with a swelling agent, so that the solid core fiber can be removed from the disengaged polymeric membrane to form said polymeric hollow fiber."

Based on all the foregoing, claims 1-68, 71 and 73-80, as amended herein, are fully patently distinguished over the art, and in form and condition for allowance. Favorable action therefore is requested.

Petition Under a 37 CFR 1.136 for a One-Month Extension of Time

Petition hereby is made under the provisions of 37 CFR 1.136 for a one-month extension of the term set in the May 17, 2005 Office Action for response, thereby extending to September 17, 2005 the deadline for reply to the Office Action.

The fee of $60 specified in 37 CFR 1.17 for such extension of time is enclosed, in the form of a Credit Card Authorization Form directing charging of such amount to the credit card identified therein.

Authorization also is hereby given for charging of any additional fee or amount properly payable in connection with the filing of this Amendment, to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

CONCLUSION

Claims 1-68, 71 and 73-80 have been shown herein to be patently distinguished over Hoffman et al., and such claims are now in condition for allowance.

If any additional issues remain, incident to the formal allowance of the application, the examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss their resolution, in order that this application may be passed to issue at an early date.

Respectfully submitted,

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